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ABSTRACT

The extent of inaccuracy in student coding of race on Scholastic Aptitude Test (SAT) forms and the effect of inaccurate coding and non-coding on results for the Montgomery County (Maryland) Public Schools are assessed. The County maintains a database that includes each student's race as designated by the student's parent on the school registration form. For each of the almost 5,000 members of the class of 1989 who took the SAT, the value of this variable was compared to the race reported by the student in response to the SAT question concerning race at the time he or she took the test. To determine the effect of miscoding on reported results, mean combined verbal and math scores for each racial group were computed using the school district database race value and using the SAT reported race value for Asians, Blacks, Hispanics, and Whites. Results indicate that 14% of the student-reported race designations did not match those on the district database; Hispanic mismatches resulted in a 25% discrepancy. Most of the mismatches were students who did not respond to the question about race (8% of all students). Although the mismatches are relatively low, they could have a significant effect on results reported by race if they are not taken into account. Two data tables are included. (TJH)

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HOW ACCURATE ARE SAT RACE RESULTS?

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Paper presented at the annual meeting of
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How Accurate Are SAT Race Results?

Introduction

In recent years the College Board has started reporting results from the Scholastic Aptitude Test (SAT) by race. These results are reported nationally, by state, and, when requested, by school district and school. A potential problem with these data is that they are based on voluntary self-reported racial group membership. Some students choose not to report their racial group and others report it inaccurately. We questioned the accuracy of our district race data when the report for our 1988 senior class included about 150 percent more native Americans than were enrolled.

Similar questions were raised by Wainer (1988). He pointed out that a basic requirement needed for SAT race data to be accurate was being violated. This assumption is that students who do not respond to the SAT question about their race score the same as those that do respond. His study was limited to estimating the performance of the non-respondents and by being unable to determine the accuracy of responses to the race question. The study reported here removes these limitations and deals with two issues -- the extent of inaccuracy in student coding of race and the effect of inaccurate and non-coding on the results for one school district.

Methods

The Montgomery County Public Schools maintains a database that includes each student's race as designated by the student's parent on the school registration form. For each member of the Class of 1989 who took the SAT (almost 5000 students) the value of this variable is compared to the race reported by the student in response to the following question at the time he/she took the test.

> How do you describe yourself? (Mark only one)
>
> a. American Indian or Alaskan native
> b. Asian, Asian American, or Pacific Islander
> c. Black or African American
> Hispanic background
> d. Mexican American or Chicano
> e. Puerto Rican
> f. Latin American, South American, Central American, or other Hispanic
> g. White
> h. Other

This comparison shows the extent of miscoding.

To determine the effect of this miscoding on reported results, mean combined Verbal and Math scores for each racial group were computed in two ways — using the school district database race value and using the SAT reported

race. While there may be a few errors in the database due to coding mistakes, the means based on this information are considered the accurate ones.

These analyses concentrated on 4 racial groups -- Asian, Black, Hispanic, and White. Data for American Indians were included in the tables but this group was not included in the analysis or discussion because they are a very small group in the district. The College Board Hispanic groups were combined into one to match the coding used in the district.

Results

Extent of inaccurate race coding. Fourteen percent (671 out of 4856) of the student reported race designations did not match those on the district database. This rate of non-matches was similar for all district defined racial groups except Hispanics who had a 25 percent mismatch.

The majority (367, 55 percent) of the non-matches were students who did not respond to the question about race. This was 8 percent of all students in the analysis, somewhat less than the 12 to 14 percent in the total SAT population as reported by Wainer (1988). Another 10 percent (68) of the non-matches selected the option "Other". This countywide trend for mismatches was also true for all racial groups except Hispanics who had only 27 percent "No response" and 18 percent "Other". The largest non-match group of Hispanics selected White.

Another result of non-matches is that there are more SAT reported Asians (1 percent more) and Hispanics (7 percent more) included in the data then were actually tested and fewer SAT reported Blacks (10 percent less) and Whites (13 percent less) reported.

Effect of inaccurate and non-coding on reported SAT Results. The differences in mean scores for groups based on district race codes and SAT race codes were small for all racial groups. The mean based on SAT information was always higher. The differences by group were -- 14 points for Asians, 1 point for Blacks, 14 points for Hispanics, and 5 points for Whites.

The specific subgroups that inflated the means based on SAT race codes differed for each racial group. For all groups, the "No response" subgroup averaged lower than the total group mean. For Asians this subgroup had an especially strong effect since they averaged 104 points below the total Asian mean. For Hispanics, all non-match subgroups were below the overall average except the 5 students who coded Asian on the answer sheets. For Whites, the students who coded themselves Black or Hispanic averaged lower than the overall White average.

The data for the above analysis are presented in Table 1. Separate mean scores for the Verbal and Math sections of the SAT show similar effects caused by miscoding and noncoding of race. These results are presented in Table 2.

Discussion

The reported mean SAT score differences caused by students miscoding or not responding to the SAT race question are small compared to the overall score variation between groups. However, even small differences in publicly reported results can get large reactions. A decline of a couple points in a district's SAT average will be a cause of concern for the Board of Education and the community. Therefore, when SAT race results are reported, the differences reported here need to be kept in mind. This is especially true when you consider that the figures reported here may understate the problem nationally since the proportion of "No responses" in Montgomery County is somewhat lower than nationally.

References

Wainer, H. (1988). How accurately can we assess changes in minority performance on the SAT?. American Psychologist, 43, 774-778

Table 1

Combined Scholastic Aptitude Test (SAT) Results for Montgomery County Public Schools (MCPS) 1989 Senior Class Broken Down by Racial Groups As Reported to the Educational Testing Service and as Shown On Each Student's Official School District Record

	MCPS Race Code											
ETS Race Code	Asian		Black		Hispanic		Indian		White		Total	
	No.	Mean	No.	Mean	No.	Mean	No.	Mean	No.	Mean	No.	Mean
Asian	**542**	**1033**	4	943	5	1094	2	900	67	1083	620	1038
Black	1	630	**440**	**841**	4	818	1	620	14	847	460	840
Hispanic	1	870	6	714	**134**	**916**	0	--	50	993	191	929
Indian	1	840	3	730	0	--	**2**	**1005**	45	870	51	866
White	12	1025	3	1213	15	896	0	--	**3069**	**1029**	3099	1028
Other	10	1092	15	853	8	894	0	--	35	1033	68	985
No response	47	919	39	794	12	903	0	--	269	994	367	960
Total	614	1024	510	839	178	915	5	886	3549	1023	4856	1000

Table 2

Verbal and Math Scholastic Aptitude Test (SAT) Results for Montgomery County Public Schools (MCPS) 1989 Senior Class Broken Down by Racial Groups As Reported to the Educational Testing Service and as Shown On Each Student's Official School District Record

	MCPS Race Code																	
ETS Race Code	Asian			Black			Hispanic			Indian			White			Total		
	No.	Verbal	Math	No.	Verbal	Math	No.	Verbal	Math	No.	Verbal	Math	No.	Verbal	Math	No.	Verbal	Math
Asian	**542**	**456**	**577**	4	460	483	5	500	594	2	305	595	67	496	587	620	461	577
Black	1	210	420	**440**	**405**	**436**	4	418	400	1	290	330	14	404	443	460	404	436
Hispanic	1	370	500	6	342	372	**134**	**432**	**484**	0	--	--	50	483	510	191	442	487
Indian	1	400	440	3	303	427	0	--	--	**2**	**475**	**530**	45	404	466	51	400	466
White	12	460	565	3	660	553	15	393	503	0	--	--	**3069**	**489**	**540**	3099	488	540
Other	10	516	576	15	397	456	8	421	473	0	--	--	35	490	543	68	465	520
No response	47	388	531	39	384	410	12	416	488	0	--	--	269	473	521	367	451	509
Total	614	452	572	510	404	435	178	429	486	5	370	516	3549	486	537	4856	471	529